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RESEARCH NOTE

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BOARD FOOT VOLUMES FOR YOUNG-GROWTH MIXED-CONIFER TIMBER

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Board foot volumes have been determined for ponderosa pine, sugar pine, white fir, and Douglas-fir in 90-year-old mixed-conifer stands on the Challenge Experimental Forest, 1/ near Oroville, California. Productivity is high—site index 140 feet at 100 years. 2/

Following the technique described by Boe, 3/ the scaled volumes of felled trees were plotted on logarithmic graph paper against the volumes for the same species in the Region 5 Volume Tables. 4/

The adjusted volume tables (table 1) extend only through the 30-inch diameter class. Above this size, the standard Region 5 tables appear applicable. Incense-cedar volumes and volumes for 9- and 10-log trees were not adjusted owing to insufficient data; however, they are included in table 1 as copied directly from the Region 5 tables for the convenience of the user.

In the range of diameters where adjustments were made (12-30 inches), the old-growth table averaged 5.3 percent low. The average adjustment was +27 board feet, with a range of -50 to +80.

1/ Operated in cooperation with Soper-Wheeler Company, Strawberry Valley, California.

2/ Meyer, Walter H. Yield of even-aged stands of ponderosa pine. U.S.D.A. Tech. Bul. 630, 60 pp., illus. 1938.

3/ Boe, K. N. Adjustment of regional volume tables for local conditions. Northern Rocky Mt. Forest and Range Expt. Sta. 1949. (Mimeographed report, 7 pp.)

4/ Timber Management Division, U.S. Forest Service, Region 5. 1948. (Based on data gathered in 1909-13 and 1925. These tables are commonly called the "Standard Volume Tables" in California.)

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TABLE 1.
YOUNG-GROWTH MIXED-CONIFER BOARD FOOT VOLUMES

CHALLENGE EXPERIMENTAL FOREST, 1961, SITE INDEX A-200 (140 ft. at 100 yrs.)

Formed by adjusting R-5 volume tables (old-growth) on basis of local tree measurements. 12-inch stump height; 8-inch top d.i.b.; 5-inches trim allowed per 16-ft. log.

Volumes Scribner Decimal C, Board Feet in Tens

D.b.h. and log height	Volume by species				
	PP	SP	WF	DF	IC[1]
12-1	4	3	5	4	3
2	7	8	9	7	5
3	12	12	13	13	11
4	16	17	18	18	--
5	22	--	--	24	--
14-1	5	4	6	4	4
2	9	9	10	9	7
3	14	14	16	15	13
4	20	21	22	22	--
5	26	--	29	28	--
16-1	6	4	6	5	5
2	11	11	12	10	9
3	16	16	19	18	15
4	24	25	27	26	--
5	31	32	34	33	--
6	38	--	42	41	--
18-1	7	5	7	5	7
2	12	12	14	12	11
3	20	20	22	22	18
4	28	28	32	31	--
5	37	37	42	40	--
6	46	47	54	49	--
20-1	9	6	9	6	8
2	13	13	16	13	13
3	24	23	27	25	21
4	33	32	39	36	30
5	43	43	50	47	--
6	54	54	63	58	--
7	63	64	75	69	--
22-1	11	7	11	6	10
2	15	14	18	15	16
3	28	27	32	29	25
4	39	37	47	42	34
5	52	52	62	56	45
6	65	64	76	69	--
7	75	75	90	81	--
8	86	86	104	95	--

D.b.h. and log height	Volume by species				
	PP	SP	WF	DF	IC[1]
24-2	17	16	20	17	19
3	32	30	36	33	29
4	45	44	55	48	39
5	61	60	72	66	51
6	74	73	89	80	--
7	88	88	105	95	--
8	102	102	121	110	--
9	117	--	--	125	--
26-2	20	19	22	19	23
3	36	34	43	38	34
4	52	50	64	55	45
5	70	70	84	76	57
6	87	88	104	92	--
7	103	103	125	110	--
8	119	118	144	127	--
9	136	129	156	144	--
28-2	23	22	--	21	27
3	42	40	49	42	40
4	60	58	73	63	51
5	80	80	97	88	65
6	101	100	120	104	83
7	120	118	144	126	--
8	139	138	167	146	--
9	161	152	182	167	--
10	181	--	--	191	--
30-2	27	25	--	24	33
3	49	46	55	47	46
4	71	68	81	72	59
5	95	91	109	100	73
6	118	113	135	119	92
7	140	136	162	143	--
8	163	160	189	166	--
9	192	176	207	190	--
10	216	198	234	216	--

Basis: 167 ponderosa pines, 26 sugar pines, 114 Douglas-firs, and 18 white firs.

[1] Copied directly from R-5 Volume Tables; not adjusted due to insufficient sample.

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